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Ex Parte

RECEIVED

October 27, 2000

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Magalie Roman Salas, Secretary
Federal Communications Commission
445 12th Street, SW, Room TW-A325
Washington, DC 20554

EX PARTE OR LATE FILED

Re: CC Docket Nos. 96-98 and 99-68
Implementation of the Local Competition Provisions of the Telecommunications Act of
1996; Inter-Carrier Compensation for ISP-Bound Traffic

Dear Ms. Salas:

On October 26, 2000, Dr. William Taylor of NERA, Robert McKenna of Qwest and the undersigned met with Tamara Preiss, Adam Candeub and Rodney McDonald of the Common Carrier Bureau. During the meeting Dr. Taylor presented his thoughts on the appropriate paradigm for ISP-bound traffic as described in the attached paper; "Efficient Inter-carrier Compensation for Internet-Bound Traffic: Reply to Time Warner Telecom."

In accordance with Section 1.1206(b)(2) of the FCC's Rules, an original and two copies of this letter are being filed with your office for inclusion in the public record.

Acknowledgment and date of receipt of this submission are requested. A duplicate of this letter is provided for this purpose. Please call if you have any questions.

Sincerely,

A handwritten signature in dark ink, appearing to read "John W. Kure", written over a horizontal line.

Attachments

cc: Tamara Preiss, Adam Candeub, Rodney McDonald

FOR INFORMATION
UPGRADE

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**EFFICIENT INTER-CARRIER COMPENSATION FOR INTERNET-BOUND TRAFFIC:
REPLY TO TIME WARNER TELECOM**

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October 23, 2000

EFFICIENT INTER-CARRIER COMPENSATION FOR INTERNET-BOUND TRAFFIC: REPLY TO TIME WARNER TELECOM

I. INTRODUCTION

1. In an earlier paper, we presented an economic and policy analysis of alternative inter-carrier compensation mechanisms for Internet-bound traffic.¹ We applied economic principles to show that the appropriate form of inter-carrier compensation for such traffic is not reciprocal compensation. The principle of cost causation clearly implies that the customer-supplier relationship for Internet-bound traffic is similar to that for long distance traffic but not for local voice traffic. However, the inter-carrier compensation mechanism for Internet-bound traffic that is analogous to the access charge structure for long distance traffic is precluded by the current FCC exemption from access charges available to all enhanced service providers ("ESPs") including Internet service providers ("ISPs"). Unfortunately, reciprocal compensation for Internet-bound traffic—based on the model of interconnection for traditional local voice traffic—cannot be justified by the cost causation principle, and has several harmful economic effects. These include an inefficient subsidy for Internet use, distortion of local exchange competition, and uneconomic arbitrage opportunities for competitive local exchange carriers ("CLECs") that serve ISPs.
2. In a recent response to a similar paper authored by one of us,² Time Warner Telecom disputed many of our key findings and attempted to portray the choice as being solely between access charges and reciprocal compensation.³ In his comments on behalf of Time

¹ William E. Taylor, Agustin Ros, and Aniruddha Banerjee, "An Economic and Policy Analysis of Efficient Inter-carrier Compensation Mechanisms for ISP-Bound Traffic," December 1, 1999.

² Declaration of William E. Taylor ("Taylor Declaration"), on behalf of Verizon Communications, in FCC, *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996* (CC Docket No. 96-98) and *Inter-Carrier Compensation for ISP-Bound Traffic* (CC Docket No. 99-68).

³ Reply Comments of Time Warner Telecom and Declaration of Don J. Wood ("Wood Comments") in FCC, *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996* (CC Docket No. 96-98) and *Inter-Carrier Compensation for ISP-Bound Traffic* (CC Docket No. 99-68), August 7, 2000.

Warner Telecom, Don J. Wood disagreed with the following three themes in the Taylor Declaration:

1. Cost-causative analysis of Internet-bound calls suggests that reciprocal compensation is inappropriate for such calls.
2. Internet-bound traffic is not as costly for a CLEC to deliver to an ISP as is local voice traffic.
3. Reciprocal compensation for Internet-bound traffic creates perverse incentives for behavior by CLECs and ISPs that harms economic efficiency.

In this paper, we respond to Mr. Wood's disagreement with us on those three themes. Specifically, we stand by our original analysis and demonstrate that Mr. Wood's own analysis is seriously flawed or deficient.

II. COST CAUSATION AND COMPENSATION FOR INTERNET-BOUND CALLS

3. Mr. Wood takes issue with the supposed assertion in the Taylor Declaration that "the flow of cost causation in a local telephone call is dependent in any way on the identity of the calling or called party." [Wood Comments, at 3] In advancing his own proposition that the identity of the calling and called parties do not matter for cost causation, Mr. Wood asserts that there is no real difference in the ultimate *incidence* of the cost of a local voice call, regardless of whether that call originates *and* terminates within the incumbent local exchange carrier's ("ILEC's") network, or originates within the ILEC's network but is handed off (under an interconnection agreement) for termination within a CLEC's network. Mr. Wood reasons that although, in the latter instance, the ILEC would avoid having to perform the termination *function* itself, it would not really avoid the cost of termination because of its interconnection obligation to compensate the CLEC for performing the termination on its behalf. The same logic would apply in reverse for calls made from within the CLEC's network to called parties either within that network or in the ILEC's network. Therefore, in Mr. Wood's view, the compensation liability always remains with the network serving the calling party and the size of the compensation is unchanged by whether the called party is on the same or some other network. According to Mr. Wood, this makes the identities of the calling and called parties and any customer-supplier

relationship irrelevant for determining who should pay whom and how much. [Wood Comments, at 5]

4. Extending his analysis to the case of Internet-bound traffic, Mr. Wood agrees that the ISP customer is the true cost-causer for an Internet-bound call, but disputes our position that the cost arises when the Internet user acts as a customer of the ISP. Instead, Mr. Wood argues, the cost is caused by the Internet user using her ILEC's network to place a call to an ISP that, in turn, provides access to the Internet. [Wood Comments, at 6] From this we surmise Mr. Wood's belief to be that, because the Internet user pays the ILEC to provide the means to contact the ISP, the ISP itself has no role in how or why the cost arises. This is also evident from Mr. Wood's claim that if the contractual relationship were truly between the Internet user and the ISP, then the ILEC would be obliged to disconnect that Internet user's telephone service any time the Internet user "failed to live up to [her] side of the contract and did not pay [her] bills to the ISP." [Wood Comments, at 6] Because this does not happen, Mr. Wood concludes that the contractual relationship relevant for cost causation is that between the Internet user and her ILEC, rather than between the Internet user and the ISP.
5. Mr. Wood also claims that the Taylor Declaration's description of the role of cost causation for Internet-bound calls suffers from the flaw of "under-inclusiveness." [Wood Comments, at 6-7] That is, Mr. Wood faults our alleged failure to consider all forms of commercial relationships that an ILEC subscriber could enter into beside that with an ISP, e.g., with brokerage firms, flower shops, banks with on-line service, pizza parlors, etc. Since Qwest or other ILECs have not argued in favor of eliminating reciprocal compensation for local calls from the ILEC subscriber to these other entities as well, there is an apparent selectivity in our singling out ISPs—and the CLECs that serve them—for denial of reciprocal compensation.
6. We disagree with all of these allegations by Mr. Wood of flaws in the economic logic of our position on cost causation and compensation for Internet-bound calls. The cost causation principle clearly distinguishes inter-carrier compensation for long distance calls from that for local calls and similarly distinguishes between the types of compensation that

are appropriate for local voice calls to end-users and calls to ISPs that provide Internet access functions to Internet users. We also believe that our exclusion of brokerage firms, pizza parlors, and the like from reciprocal compensation arrangements does *not* raise the specter of under-inclusion.

A. Contractual Relationships *Do* Matter for Determining Compensation Policy

7. The cost causation principle asks us to first identify the source of cost and then determine the amount of cost to be recovered. The first priority is, therefore, to locate the cost-causer or, in other words, the economic decision that gave rise to the cost. When an Internet user wishes to reach a web site or other destination on the Internet, she must first secure the services of the entity that is not only in a position to provide the pathway to the Internet but also actively markets those services through advertising and contractual terms and conditions concerning price, scope, quality, etc. The cost of the Internet-bound call—*wherever it may be generated*—would not arise were it not for the promise by the ISP to deliver Internet destinations to the Internet user and that user's voluntary acceptance of the ISP's terms and conditions for granting such access. In the absence of Internet access (i.e., the ISP's service), there would be no Internet-bound calls, and no cost would be caused for such calls. Therefore, the premise of cost causation *does* require us to look at how cost may arise in any instance and the contractual arrangement that governs the economic decision that gives rise to that cost.
8. The same may be observed to be true for other contractual relationships as well: that between the ILEC's subscriber and the ILEC for local voice calling (with the ILEC subscriber acting as a *customer* of the provider of local voice service) or that between the ILEC subscriber and the inter-exchange carrier ("IXC") for long distance calling (with the ILEC subscriber acting as a *customer* of the IXC for long distance service). Of course, the ILEC subscriber would have to use the ILEC's network to reach a CLEC (for cross-network local calls), an IXC (for long distance calls), and an ISP (for Internet calls). That is exactly how all or part of the cost of making those calls would arise in the first place. But, employing the cost causation principle in the manner suggested to determine how or why

cost arises does *not* amount to denying compensation where it is due. Indeed, cost causation helps us to sort through the following questions: (1) why did the cost arise (what economic decision caused the cost)? (2) where did the cost arise (what is the chain of economic activities that followed that decision)? and (3) how should the cost be recovered (how can the cost-causer and her agent be made to compensate all parties that incurred cost as a result of those economic activities)? Contrary to Mr. Wood's suggestion, we submit that the identity of the various parties in the contractual relationship *is* fundamental for determining where compensation is due and from whom.

9. Clearly, the ILEC subscriber must use intermediaries (such as the ILEC's and sometimes a CLEC's network) to reach her agent (an IXC for long distance calls and an ISP for Internet calls). In all instances, those intermediaries, as passive participants in the process, incur costs for which they should be compensated. For long distance calls, the IXC—the cost-causer's agent—compensates the ILEC (or CLEC) for incurring costs at both the originating and terminating ends of those calls *and* recovers that compensation in the long distance service rates it charges its cost-causing customer. The exact same story applies, or should apply, to Internet calls for which the ISP—the cost-causer's agent—must compensate the ILEC (and/or CLEC) for incurring costs to deliver those calls. Analogously to the IXC, the ISP should then recover that compensation in its Internet access service rates to the cost-causing customer. In sharp contrast to Mr. Wood's supposed application of the cost causation principle, this demonstrates why it is important to first establish the identities of the cost-causer, the cost-causer's agent, and other intermediaries who passively incur cost before determining how compensation should be paid and to whom. To do otherwise (as Mr. Wood's analysis suggests) would be to ignore cost causation itself.

B. There is *No* Problem of Under-Inclusion if the Status of Called Parties is Correctly Identified

10. The alleged problem of under-inclusion (or selectivity) in determining compensation policy is entirely a figment of Mr. Wood's own incomplete analysis. Mr. Wood asks why reciprocal compensation should apply to various entities (like brokerage firms, pizza parlors, etc.) with which the ILEC subscriber can have a commercial relationship over the

telephone network but not to CLECs serving ISPs. The obvious answer is that every entity listed by Mr. Wood as the called party is an “end-user” (in the commonly understood sense of the term), but an ISP is not. Local calls made between end-users qualify for reciprocal compensation under state and federal policies, but not so calls from an end-user and a carrier. Our position has consistently been that the ISP performs the economic functions of a carrier, not an end-user or the passive recipient of a call. The ISP maintains a gateway into the circuit-switched network on one side and the packet-switched network on the other and, on occasion, even integrates itself into one or the other network (e.g., when the ISP becomes its own CLEC or owns and operates its own assets in the Internet backbone). The ISP also acts like a carrier by transporting Internet calls, performing protocol conversions, and carrying out other carrier functions. Regulators have also recognized this difference from true end-users, sometimes explicitly.⁴

11. Could the relationship between an ILEC subscriber and a pizza parlor or a bank with on-line service be a commercial contract in the same sense as that between that subscriber and an ISP? The answer is a qualified “yes.” Like the ISP, the pizza parlor or the bank offers its services over the telephone (although, unlike the ISP, it also has non-network means for selling its services). However, there are also some important differences. First, the pizza parlor or the bank does not perform the carrier-like functions of an ISP to provide access to some other party (such as a web server or Internet destination). Rather, the pizza parlor and the bank provide internal access into their own operations, in much the same way that *any* end-user may be said to provide “access” to herself when a call comes in. Second, the relationship between the ILEC subscriber and the pizza parlor or bank is truly reciprocal, as it is supposed to be between two end-users. That is, the pizza parlor or bank can

⁴ For example, in becoming the fourth state regulatory agency to deny reciprocal compensation for Internet-bound traffic, the Louisiana Public Service Commission stated:

There is no prevailing industry custom of treating ISP traffic as “local” for reciprocal compensation purposes. FCC regulations require that ISPs be treated as end users *for only one purpose, the access charge exemption*.

Louisiana Public Service Commission, *In re Petition of KMC Telecom, Inc. Against BST to Enforce Reciprocal Compensation Provisions of the Parties’ Interconnection Agreement*, Order in Docket No. U23839, October 13, 1999, at 13.

independently call the ILEC subscriber, i.e., on a separate call from that made by that subscriber to the pizza parlor or bank. An ISP, in contrast, serves merely as an Internet access-granting agent to the ILEC subscriber and has no commercial interest in returning separately any calls to that ILEC subscriber. In both of these respects, the role of the ISP is strikingly similar to that of an IXC. Unlike the pizza parlor or bank, an IXC too performs the functions of a carrier and has no commercial interest in returning separately any calls to the ILEC subscriber. These differences bear powerful witness to the fact that mere *resemblance* between cross-network local voice calls and Internet-bound calls (up to the ISP) is not enough for both to merit the same compensation mechanism. Without belaboring the point unnecessarily, cost causation *does* matter.

III. INTERNET-BOUND TRAFFIC MAY NOT BE AS COSTLY AS LOCAL VOICE TRAFFIC

12. Mr. Wood questions the conclusion reached in the Taylor Declaration (and our earlier submission) that the cost per minute of an average-duration Internet-bound call is less than that for an average-duration local voice call. [Wood Comments, at 10-17] First, although he agrees with our position that, under the current rate structure, that difference in cost per minute may be true (because averaging of fixed call set-up costs over longer durations necessarily yields that result), he dismisses any further concern for it by proposing a two-part rate structure that would separate the recovery of the fixed call set-up cost from that of the incremental per-minute cost. Second, he disagrees with the assertion in the Taylor Declaration that line CCS costs for Internet-bound traffic are not traffic-sensitive and should, therefore, be omitted from the calculation of the per-minute incremental cost of carrying such traffic.
13. Even if, for the sake of argument, the per-minute incremental cost were the same for Internet-bound and local voice traffic, the current rate structure adopted for reciprocal compensation *is* a matter of significant concern. While we are encouraged by Mr. Wood's support for a two-part rate structure (to distinguish the recovery of fixed costs from that of incremental costs), we are not optimistic about its prospects for widespread adoption any time soon. We note that the same, more efficient rate structure could equally be proposed

for switched access service (which too incurs fixed and traffic-sensitive or incremental costs) but that, by long-standing tradition, switched access rates have been single-part composites intended to recover both fixed and traffic-sensitive costs. Similarly, the FCC's policy for reciprocal compensation for local voice traffic is based on a single-part rate that applies equally in both directions (i.e., to both the ILEC and the CLEC), *regardless* of any differences in the underlying costs of the two networks to carry local calls. Therefore, as long as that rate structure persists for Internet-bound traffic, the inefficiency and perverse incentives generated by extending to Internet-bound traffic the reciprocal compensation rate designed for local voice traffic will remain a matter of substantial concern.

14. Mr. Wood also misunderstands why certain traffic-sensitive costs do not arise for CLECs that serve ISPs through ISDN Primary Rate Interface ("PRI") facilities. Those ISP-serving CLECs typically build switches at a concentration ratio of 1:1. Therefore, for those carriers, line CCS costs are fixed with respect to usage. Each line serving an ISP has a *dedicated* path through the switch processor and increased usage from other lines does not impact the use of the line serving the ISP. No matter what the demand is from other lines, the path serving the ISP always remains available for customers calling the Internet. Since the circuit is dedicated to the ISP line, the use of the facility does not impose congestion costs on other users and no rationing or call blocking is imposed on the network as a result. Although the same network elements are used for local voice traffic, inter-carrier compensation for Internet-bound traffic should not include line CCS costs because those costs do not vary with additional usage and are, therefore, not incremental costs of delivering Internet-bound calls.

IV. RECIPROCAL COMPENSATION FOR INTERNET-BOUND TRAFFIC CREATES PERVERSE INCENTIVES AND HARMS ECONOMIC EFFICIENCY

15. Mr. Wood questions several strands of the conclusion in our earlier paper and the Taylor Declaration that reciprocal compensation for Internet-bound traffic using the compensation rate set for local voice traffic can generate perverse incentives for CLEC and ISP behavior that harms economic efficiency. For example, while agreeing that Internet-bound traffic has increased network usage costs, Mr. Wood sees no basis to conclude that "the mismatch

between costs and rates has been created by the involvement of CLECs or has increased in magnitude because of the involvement of CLECs.” [Wood Comments, at 18] As he sees it, the extent to which that mismatch between costs and rates (hence, any scope for inefficiency) arises does not depend on whether the Internet-bound traffic originated by the ILEC’s subscribers gets handed off to ISPs being served by the ILEC or to other ISPs being served by CLECs. In Mr. Wood’s words:

If the reciprocal compensation rates are properly established at a level equal to the ILEC’s forward-looking economic costs of call termination, there is no net cost impact when call termination costs are avoided and replaced by reciprocal compensation. [Wood Comments, at 19]

16. Even if the harms to economic efficiency were to materialize from reciprocal compensation for Internet-bound traffic, Mr. Wood does not believe that the right policy answer is to deny the CLEC compensation for delivering Internet-bound calls received from the ILEC’s subscriber to the ISP. [Wood Comments, at 20] The net effect of such a policy, Mr. Wood believes, would not be a reduced mismatch between costs and rates, but simply a migration of ISPs from CLECs to the ILEC that will continue to be compensated from the local rates it charges its subscribers.
17. Mr. Wood also discounts the prospects for diminished incentives for CLECs that receive reciprocal compensation for Internet-bound calls to serve residential local exchange customers. He dismisses the possibility that paying reciprocal compensation to CLECs at rates reflecting the ILEC’s incremental cost of call termination could make serving residential local exchange customers less financially appealing. [Wood Comments, at 21]
18. Finally, Mr. Wood rejects fears that uneconomic arbitrage can arise from applying reciprocal compensation to Internet-bound traffic. In his view, such arbitrage “exists only if reciprocal compensation rates have been established at levels that exceed the ILEC’s cost of call termination.” [Wood Comments, at 22] While conceding that “[c]ost-based rates effectively eliminate [the] incentive” for arbitrage, Mr. Wood asserts that the one example of arbitrage by US LEC of North Carolina is insufficient to merit rejection of reciprocal compensation for Internet-bound traffic.

19. We disagree with all of these conclusions reached by Mr. Wood. As is readily evident from Mr. Wood's discussion of the issues, many of those conclusions stem from assuming that "trading call termination costs for cost-based reciprocal compensation" alters none of the outcomes expected when the ILEC alone serves both the Internet user and the ISP and incurs both call origination and call termination costs. From this, we surmise that Mr. Wood sees the cost of call termination, for Internet-bound traffic, as being the same for both the ILEC and the CLEC.⁵

A. The Mismatch of Rates and Costs Aggravates Economic Inefficiency

20. Economic efficiency (specifically, a form of it called *allocative* efficiency) suffers when incremental revenues (i.e., rates) are out of line with incremental costs. Relative to the economically efficient level, any rate higher than incremental cost encourages excessive supply of the product or service in question, while a rate below incremental cost encourages excessive demand for that product or service. Thus, if the compensation rate available to the ISP-serving CLEC exceeds its incremental cost to deliver Internet-bound traffic to ISPs, we should expect a strong incentive for CLECs to get into the business of serving ISPs, perhaps even specialize in doing so, i.e., at the expense of providing traditional local exchange voice services. Mr. Wood does not address this issue because he fails to recognize or accept that the ISP-specializing CLEC's incremental cost to deliver Internet-bound traffic is likely to be below the compensation rate typically adopted, the *ILEC's* cost to terminate local *voice* calls. Nor does Mr. Wood account for the increasingly familiar situation of highly unbalanced traffic flows between ILECs and CLECs. There is now considerable evidence that the overwhelming percentage of Internet-bound traffic flows occur from ILECs to ISP-serving CLECs, and that CLECs are often formed simply to specialize in serving ISPs⁶ and collect reciprocal compensation.⁷

⁵ Mr. Wood repeatedly characterizes the function performed by the ILEC or the CLEC to deliver an Internet-bound call to an ISP as call "termination." We refrain from using the same characterization because, technically, a call can only be terminated to an end-user. As we argued before, ISPs are not end-users, hence CLECs do not terminate Internet-bound calls to them.

⁶ According to a recent survey, about 62 percent of national ISPs plan to partner with CLECs, 46 percent plan to merge with CLECs, and nearly 66 percent plan to lease CLEC facilities. See Infonetics Research, "The National
(continued...)

21. While Mr. Wood accepts the principle that reciprocal compensation should be cost-based, he clearly errs in designating whose cost should be used for that purpose. The assertion that uneconomic arbitrage could only occur if the compensation rate exceeded the *ILEC's* cost of call termination is false and fails to recognize that it only takes that rate to exceed the *CLEC's* cost of call termination for arbitrage opportunities to be created. Unfortunately, even though arbitrage is typically a rational response to distortions in existing rates and costs, a policy of reciprocal compensation for Internet-bound traffic can only perpetuate—not mitigate—the problem as long as commentators like Mr. Wood fail to make the proper rate-cost comparisons or set compensation rates based on costs of local voice traffic rather than on costs of Internet-bound traffic.
22. As we noted in our earlier paper, evidence that reciprocal compensation payments exceed CLECs' costs of handling Internet-bound traffic could not be more clear. Non-traffic sensitive loop costs and traffic-sensitive costs of telephone companies arise, on average, in about an 80:20 proportion. With reciprocal compensation designed solely to recover the costs of handling Internet-bound traffic, we should expect cost-based reciprocal compensation revenues to average about a quarter of the competitive market-based revenues from supplying local exchange loops. As we noted in our earlier paper, in Louisiana alone, ILECs' (i.e., BellSouth's) reciprocal compensation obligations—ostensibly to recover the traffic sensitive switching and transport costs to terminate traffic—

(...continued)

ISP Opportunity 1998.” CLEC and ISP functions are converging as well: new technologies such as softswitches, virtual ISP POPs, and managed port services for ISPs outsource current ISP functions to CLECs, further blurring the distinction between the CLEC and the ISP.

⁷ Both the Massachusetts regulators and the FCC have taken note of the web site claims of ISG-Telecom Consultants International, a Florida-based company formed in the aftermath of the Telecommunications Act of 1996 that promises to turn ISPs into CLECs and IXC's with their own ISP operations. As a rationale for doing so, ISG-Telecom believes that “... as a facility based CLEC, the ISP/CLEC should be able to participate in *reciprocal compensation* with the carriers, providing there is not a negative ruling from the FCC in up and coming months.” (emphasis added in part) Clearly, arbitrage opportunities presented by the payment of reciprocal compensation for Internet-bound traffic, not an inherently efficient network arrangement, lies at the heart of this mission statement.

were more than three times the CLEC's revenue from non-traffic sensitive local exchange rates.⁸

B. ILEC Compensation of CLECs for Internet-Bound Traffic is Not Economically Efficient

23. While Mr. Wood is certainly correct that CLECs should be compensated for their role in delivering to ISPs Internet-bound calls originated by other carriers, he is mistaken in believing that that compensation should be received from those carriers. To achieve an economically efficient outcome, it is first necessary to view the ILEC and the CLEC as jointly provisioning access to the ISP and, therefore, to the Internet. With this supply arrangement in view, the next step is to require the ISP and the cost-causer, the ISP's customer, to compensate both the ILEC and the CLEC for the costs they incur on their behalf. This is no different from requiring the IXC and the cost-causer, the IXC's customer, to compensate all LECs involved in providing switched access for long distance calls.
24. With ISPs and their customers compensating the ILEC and the CLEC directly, there can be no further reason to maintain an ill-advised reciprocal compensation mechanism for Internet-bound calls between those LECs. Hence, the perverse outcome feared by Mr. Wood—the migration of ISPs from CLECs to the ILEC—can never come to pass. In other words, with the proper cost-causative form of compensation—rather than reciprocal compensation—in place, the form of inefficiency envisioned by Mr. Wood becomes moot.

C. Reciprocal Compensation for Internet-Bound Traffic Creates Opportunities for Arbitrage

25. Mr. Wood's efforts to downplay the significance of arbitrage notwithstanding, it is important to understand just how easily the first-level inefficiency (created by the failure to adopt a cost-causative form of inter-carrier compensation for Internet-bound traffic) can be

⁸ "KMC generated approximately \$636,427 in revenue from providing service to its ten Louisiana ISP customers during the same time period that it billed BST \$2,160,985 in reciprocal compensation for traffic to those ten ISP customers." Louisiana Public Service Commission, Order No. U-23839, *KMC Telecom v. BellSouth Telecommunications, Inc.*, October 13, 1999, Factual Finding No. 13.

compounded by a poorly designed reciprocal compensation rule. The example of US LEC's blatant attempts at arbitrage may be particularly egregious, but it is not the only evidence of opportunistic schemes to make and maximize revenues from reciprocal compensation (see fn. 7).

26. We agree with Mr. Wood that the compounding inefficiency due to reciprocal compensation can be avoided by adopting cost-based compensation rates. However, that is only the minimum requirement. As we stated before, to avoid arbitrage, the compensation rate must reflect a carrier's actual cost to handle Internet-bound, not local voice, traffic. Thus, the ILEC and the CLEC would each be compensated only to recover their respective costs to handle that traffic. This brings up the possibility that the ILEC and the CLEC would have different costs and have to be compensated at different rates, especially if the ILEC provides the full spectrum of local exchange services and the CLEC specializes only in serving ISPs. All of these requirements mark a significant departure from the current practice of (1) extending reciprocal compensation rates set for local voice traffic to Internet-bound traffic as well and (2) charging that rate symmetrically between the ILEC and the CLEC. Mr. Wood fails to acknowledge just how much more is needed to avoid opportunities for arbitrage than merely setting "cost-based compensation rates."

V. CONCLUSION

27. Two conclusions emerge from this discussion. First and foremost, regardless of the level and structure of the costs of transport and termination, cost causation requires that ISPs' customers face directly the costs their usage impose on the network, just as long distance customers pay for those costs directly to the IXC, which then compensates the LECs that jointly facilitate the long distance calls. That same mechanism preserves efficiency incentives for Internet-bound traffic: customers of the ISP pay the ISP for the services they demand, and the ISP reimburses the LECs that jointly carry such traffic. This mechanism—and not reciprocal compensation—applies cost causation and minimizes the efficiency losses from subsidy and other competitive distortions inherent in the ESP exemption.

28. Second, if reciprocal compensation is (incorrectly, in my view) chosen as the inter-carrier compensation mechanism, serious problems must first be addressed. Economic distortions stemming from inefficient subsidies to dial-up Internet-bound traffic, warped incentives in local exchange competition, and profit opportunities from uneconomic arbitrage can only be mitigated if the rate level and structure for reciprocal compensation are made to reflect the actual cost characteristics of Internet-bound traffic and of the ILECs and CLECs that carry it.